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microscope, its aperture 25 stands a little lower than the rod *d*, and exactly at the same distance from it as the axis of the microscope, so that the body when brought round coincides with it; the mirror, in order to coincide with it, is turned round also. A wooden prop, shewn by dotted lines, extends from the stool to the arm 15, it tends to steady the microscope, and secures it in its horizontal position.

The condensing lens 27, plate 2, is most conveniently held by the movable arm, the curve 29 and joint 30 allow it to be moved to or from the stage, either vertically or horizontally, so as to suit every purpose.

The pillar of the microscope turns on the foot, the longer toes of which can thus be brought under the superincumbent weight; thus a smaller foot than usual is rendered sufficient for its purpose. The shape of the foot is somewhat like that of a bird's, and is shewn by fig. 14, plate 1; it is strictly triangular, and the two long toes are at right aagles to each other, and thus the length of the short toe is readily determined. It is cast hollow, and from its particular form is rendered very stiff.

CORNELIUS VARLEY.

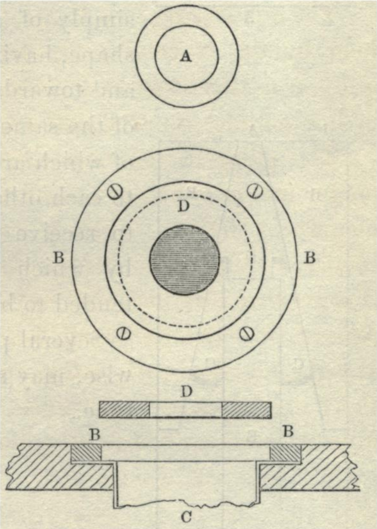
No. V.

ANNULAR SCUPPER-MOUTH FOR SHIPS' DECKS.

The SILVER ISIS MEDAL was presented to Commander H. DOWNES, R.N., of Ladbroke Terrace, Notting Hill, for his Annular Scupper-mouth for Ships' Decks.

THE improved scupper-mouth originated in 1831, from Commander Downes having seen a frigate's main deck on the coast of Africa constantly flooded during heavy rains, owing to the gangway-scuppers being unable to carry off the water fast enough. In 1837–8, a model was presented to the Admiralty, when they were fitted in H. M. S. Pique, and a favourable report was made thereon.

The scupper-mouth in ordinary use, with its aperture A, is represented by the upper figure.



The other figures represent the plan and sections of the scupper-mouth, as improved by Commander Downes, and which are drawn to a scale one-eighth of the full size.

The new scupper-mouth consists of two copper rings, the largest, B B, is let flush into the deck, and screwed down thereto over the scupper C, being four times the area of the old one; D is the smaller ring, which is movable, and fits accurately into B B.

When the deck is required to be washed, or in times of heavy rain, the ring D is taken out, and thus the aperture is rendered sufficiently large to enable the water to be carried off rapidly. It would be dangerous, however, to leave so large an opening in the deck, except when required as above. And thus the small ring D is rendered necessary in order to prevent accidents.